BELOV, S.P.; POZDEYEV, I.G.

Perforation of Meckel's diverticulum by a fishbone. Khirurgiia 33 no.3:122 Mr '57. (MLRA 10:6)
(INTESTINES--WOUNDS AND INJURIES)

Belov, S.P.

AUTHORS: Kazanskiy, Yu.A., Belov, S.P. 89 -1-10/18

TITLE: The Spectrum of Scattered γ -Radiation After Passage Through a Lead Barrier (Spektr rasseyannogo γ-izlucheniya posle prokhozhdeniya svintsovogo bar'yera).

PERIODICAL: Physics and Thermotechniques of Reactors (Fizika i teplotekhnika reaktorov), Supplement Nr 1 to Atomnaya energiya, 1958(USSR)

ABSTRACT: The spectral and angular distribution of the γ -radiation of a $\sim$0.5 C Co-60-source is dealt with after the γ-radiation has passed through a lead block of $\mu_0 r = 3.9$ (given in free lengths of path). Measuring was carried out with a swivelingly mounted scintillation spectrometer. Spectral distribution was measured at 0, 10, 20, 30, 48 and 60°; the respective curves are given. Furthermore, the differential energy spectrum of the scattered $\sim$ -intensity is given. Within the range of from $\sim$0.5 to 1.2 MeV experimentally and theoretically computed values agree well, whereas from 0.3 to 0.5 MeV they do not. There are 3 figures, 1 table, and 4 references, 1 of which is Slavic.

AVAILABLE: Library of Congress

Card 1/1 1. Gamma rays-Scattering 2. Gamma rays-Spectrum

SOV/89-5-4-10/24

AUTHORS: Kazanskiy, Yu. A., Belov, S. P., Matusevich, Ye. S.

TITLE: Angular- and Energy Distribution of γ-Rays Scattered by Iron and Lead (Uglovyye i energeticheskiye raspredeleniya γ-izlucheniya, rasseyannogo v zheleze i svintse)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 4, pp 457-459 (USSR)

ABSTRACT: Measurements were carried out on the angular- and energy distribution of Co^{60} and Au^{198} γ-radiation which had been scattered by lead with $\mu_0 r$ = 2,2; 4,1; 6,3; 8,2 and iron with $\mu_0 r$ = 2, 4, 6, 8,5, and 9,8 (μ_0 denotes the absorption coefficient of γ-radiation and r - thickness of the filter). Measurement took place in semi-infinite geometry.
For measurements the scintillation spectrometer (CsJ(Tl)-crystal: diameter 30 mm, height 27 mm) was used.
Measurements were carried out at the following angles θ: 10, 20, 30, 40, 50, and 60°.
The angular distributions obtained are plotted in graphs. The results obtained by the present paper and the papers of ref-

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Angular- and Energy Distribution of γ-Rays Scattered by Iron and Lead

erences 1 - 3 permit the following conclusions to be drawn: The angular distribution of the intensity of the scattered γ-rays depends only little upon the thickness of the layer of the scattered medium (up to a thickness of layer of 10 free lengths of path). This determination holds for materials with small as well as with medium or large Z (concrete, iron, lead) within the γ-energy domain of from 0,4 to 1,3 MeV.
S. G. Tsypin and V. I. Kukhtevich advised the authors in working out this paper, and S. I. Chubarov and V. I. Popov assisted in carrying out experiments. There are 6 figures and 4 references, 1 of which is Soviet.

SUBMITTED: April 13, 1958

21(7) SOV/89-6-6-11/27

AUTHORS: Belov, S. P., Dulin, V. A., Kazanskiy, Yu. A., Kukhtevich, V. I., Tsypin, S. G.

TITLE: Space and Energy Distribution of the Neutrons in Boron Carbide (Prostranstvennoye i energeticheskoye raspredeleniye neytronov v karbide bora)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 6, pp 663 - 665 (USSR)

ABSTRACT: The authors report on investigations of space and energy distributions of 3 and 15 Mev neutrons in boron carbide. The 3 Mev neutrons were the product of the reaction $H^2(H^2,n)He^3$, the 15 Mev neutrons from $H^2(H^3,n)He^4$. The test arrangement (infinite geometry) is briefly described. Boron carbide $\gamma = 1.18 \pm 0.05$ g/cm^3; neutron detectors: 1) proportional counter with BF_3 enriched to 88% with B^{10}; 2) fission chamber with natural uranium, U^{235} (enriched to 75%), and Th^{232}; 3) threshold indicators: $P^{31}(n,p)Si^{31}$, $Al^{27}(n,p)Mg^{27}$, $Fe^{56}(n,p)Mn^{56}$, $Sb^{121}(n,2n)Sb^{120}$, $Cu^{63}(n,2n)Cu^{62}$, $In^{115}(n,\gamma)In^{116m}$. Figure 1 shows the space neutron distribution (3 and 15 Mev) in the passage through

Card 1/3

boron carbide. Detectors for the 3 Mev neutrons: 1) and 2), for the 15 Mev neutrons, 2) and 3). It was found among others that an increase of the threshold energy of the detector increases the inclination of the attenuation curves of the neutrons. In measuring the 15 Mev neutron attenuation by means of the indicator $Cu^{63}(n,2n)Cu^{62}$ (E_{thresh} = 10.9 Mev) the relaxation path for the distance source - detector R $>$ 16 cm does not change and is close to the transport path λ_{tr} = 18 $\pm$ 2 cm. A comparison of the data contained in the present paper with those from reference 1 (Geneva Paper Nr 2147, 1958) is briefly discussed. The following relative capture figures are determined:

indicator:	Cu^{63}	Sb^{121}	Fe^{56}	Al^{27}	P^{31}	In^{115}
measurement by counter	6.5$\pm$1	8$\pm$2	1	0.73$\pm$0.15	1.04$\pm$0.15	-
by spectrometer	-	-	1	0.65$\pm$0.15	-	6$\pm$2

Card 2/3

Figure 2 shows the energy distribution of the neutron flux in boron carbide for different intervals (energy interval 1.5 - 15 Mev, results standardized in the interval 13.5-15 Mev). Moreover, the ratio between $\sigma_{U\ 235}(E_{eff})$ and $\sigma_{B\ 10}(E_{eff})$ of the reaction (n,α) with B^{10} in boron carbide was determined. In the case of 3 Mev neutrons 0.97 ± 0.03 was obtained at $E_{eff} = 120 \pm 10$ kev. In conclusion, the authors thank I. I. Bondarenko for advice and discussions, N. D. Proskurnina, V. F. Bashmakov, A. N. Nikolayev, and V. I. Popov for assistance in the experiments as well as A. N. Serbinov and I. A. Vorontsov for work at the neutron generator. There are 2 figures, 1 table, and 4 references, 2 of which are Soviet.

SUBMITTED: January 6, 1959

BAKOV, A.T.; BELOV, S.P.; KAZANSKIY, Yu.A.; POPOV, V.I.

Yield of γ-rays due to radiation capture from iron. Atom. energ. 13 no.1:31-37 Jl '62. (MIRA 15:7)
(Gamma rays) (Neutrons--Capture)

45358
S/056/63/044/001/001/067
B108/B180

24,6580

AUTHORS: Bakov, A. T., Belov, S. P., Kazanskiy, Yu. A., Popov, V. I.

TITLE: Comparison of the gamma spectra from the radiative capture of thermal and fast neutrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 3 - 9

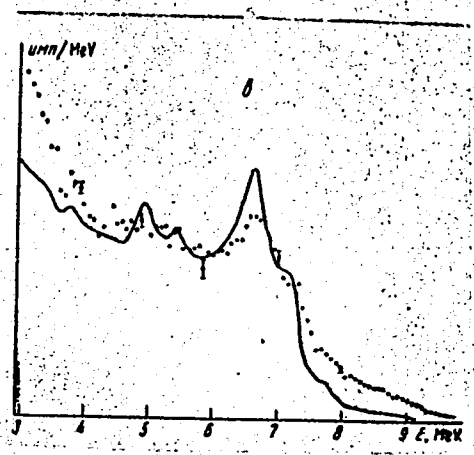
TEXT: The gamma spectra arising from the capture of fast and thermal neutrons from a water-moderated uranium reactor in Mn, Co, Fe, Ni, and Cu were studied by means of a scintillation gamma spectrometer with an NaI(Tl) single crystal. To eliminate the gamma background, the sample was shielded on the reactor side by a Bi-Pb-Bi sandwich screen, and the detector by a screen of organic glass and boron carbide. The spectra of all five substances were similar in shape (Fig. 4). The difference in the gamma intensities produced by fast and thermal neutrons is attributed to the effect of P-neutrons. There are 4 figures.

SUBMITTED: May 9, 1962

Card 1/2

Comparison of the gamma spectra ...

Fig. 4β . Gamma spectra of the radiative capture of thermal neutrons (solid line) and of neutrons of the entire reactor spectrum (dotted) for Fe. Legend: Ordinate - pulses per Mev.



Card 2/2

BELOV, S.P.; DULIN, V.A.; KAZANSKIY, Yu.A.; TSYPIN, S.G.

Angular distribution of 3 and 15 Mev. neutrons in beryllium.
Atom. energ. 18 no.1:67-68 Ja '65.

(MIRA 18:2)

L 29942-65 EPF(n)-2/EWT(m)/EWG(m)/EWP(b)/EWP(e)/EWP(t) Pu-4/Pad IJP(c)
WW/JD/HW/JG
ACCESSION NR: AP5005804 S/0089/65/018/002/0136/0140

AUTHOR: Belov, S. P.; Dulin, V. A.; Kazanskiy, Yu. A.; Popov, V. I.; Tsypin, S. G.

TITLE: Experimental investigation of shielding on the RIZ stand

SOURCE: Atomnaya energiya, v. 18, no. 2, 1965, 136-140

TOPIC TAGS: capture gamma radiation, neutron spectrum, uranium water reactor, zero power reactor, radiation shielding, RIZ stand

ABSTRACT: A zero-power reactor stand for studying processes taking place in the shielding directly adjacent to the core is described. The uranium-water reactor, whose prototype was developed under the direction of V. A. Kuznetsov, has a cylindrical core 335 mm in diameter and 275 mm high. By varying the boron thickness in the reflector the neutron spectrum in the reactor stand can be varied in the energy region below 10 kev, thus simulating the neutron spectra of various thermal and intermediate reactors. The results of the measurements of neutron spectra and of the study of shielding materials (iron, nickel, and borated nickel) are given. Orig. art. has: 6 figures and 1 table. [BP]

ASSOCIATION: none

Card 1/2

L 29942-65

ACCESSION NR: AP5005804

SUBMITTED: 02Apr64 ENCL: 00 SUB CODE: NP

NO REF SOV: 005 OTHER: 000 ATD PRESS: 3195

Card 2/2

L 11697-66 EWT(m)/ETC/F/EPF(n)-2/EWG(m)/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/WW/JG/DM
ACC NR: AP6008249 SOURCE CODE: UR/0089/65/019/005/0452/0453

AUTHOR: Belov, S. P.; Demin, V. P.; Kazanskiy, Yu. A.; Popov, V. I.; Lobakov, A. P.

ORG: none

TITLE: Secondary gamma-emission coefficients for aluminum, copper, and tungsten

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 452-453

TOPIC TAGS: aluminum, tungsten, copper, gamma flux, neutron flux, gamma quantum, secondary emission, radiation shielding

ABSTRACT: The coefficient of secondary gamma emission-the ratio of total capture-gamma flux with energies above threshold emitted from a shielding surface to the total neutron flux leaving the same surface-was determined for Al, Cu, and W, using the RIZ reactor as the neutron source. Measurements were made for gamma quanta over 5 Mev and for shielding thicknesses of 20 cm for Al, 9.5 to 48 cm for Cu, and 5 to 17 cm for W. [NA]

SUB CODE: 18, 20 / SUBM DATE: 10Mar65 / ORIG REF: 004

BVK
Card 1/1 UDC: 539.122

L 05069-67 EWT(m) JR/GD

ACC NR: AT6027933 SOURCE CODE: UR/0000/66/000/000/0170/0174

39
37
B+1

AUTHOR: Abagyan, A. A.; Belov, S. P.; Kazanskiy, Yu. A.; Mazin, V. I.

ORG: None

TITLE: Measurement and calculation of the coefficients of secondary gamma-radiation 14

SOURCE: Voprosy fiziki zashchity reaktorov (Problems in physics of reactor shielding); sbornik statey, no. 2. Moscow, Atomizdat, 1966, 170-174 19

TOPIC TAGS: gamma radiation, neutron, radiation shielding, capture cross section

ABSTRACT: The authors consider the coefficient of secondary emission β which expresses the ratio of the total number, dose or energy of capture γ-quanta to the total number of neutrons emitted from a given shielding material. The general expression for this coefficient is

$$\beta = \frac{\sum_i \int \Phi(r, \Omega, E)\,\Sigma_{n,\gamma}(E)\,\eta_i(E)\,\psi(r, r_s, E_i)\,d\Omega dE dV ds}{\int \Phi(r_s, \Omega, E)\,d\Omega dE ds},$$

where $\Phi(r, \Omega, E)$ is the neutron flux at the point r in the unit energy interval at energy E and in the unit solid angle about the direction Ω; $\Sigma_{n,\gamma}(E)$ is the radiation capture cross section for neutrons of energy E; $\eta_i(E)$ is the yield of γ-quanta of

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L 05069-67

ACC NR: AT6027933

2

energy E_i per capture of a single neutron with energy E; $\psi(r, r_s, E_i)$ is the function which gives the attenuation of the stream of γ-quanta with energy E_i from the point of γ-quantum production r to the points r_s on the surface. A formula is derived for the asymptotic value of β determined by the physical properties of the shielding material alone. A comparison of theoretical and experimental asymptotic values of β shows a systematic divergence by a factor of approximately 2.5, the theoretical data being overestimated. The reason for the divergence is assumed to be inaccurate determination of neutron intensities at the boundary. In spite of the discrepancy between experimental and theoretical data, the nearly constant divergence obtained for various elements with large, small and moderate capture cross sections (tungsten, lead, iron and nickel) indicates that the proposed method may be used for calculating the asymptotic values of β with an accuracy of 30% if a correction factor of 2.6 is used. The authors thank S. G. Tsypin and V. Ya. Pupko for interest in the work and useful remarks. Orig. art. has: 3 figures, 6 formulas.

SUB CODE: 18/ SUBM DATE: 12Jan66/ ORIG REF: 003

Card 2/2 pla

L 05057-67 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/JR/GD

ACC NR: AT6027932 SOURCE CODE: UR/0000/66/000/000/0164/0169

AUTHOR: Abagyan, A. A.; Belov, S. P.; Kazanskiy, Yu. A.; Popov, V. I.; Fadeyev, I. A.; Dubinin, A. A.

ORG: None

TITLE: On the function of effectiveness of shielding materials with respect to capture gamma-radiation

SOURCE: Voprosy fiziki zashchity reaktorov (Problems in physics of reactor shielding); sbornik statey, no. 2. Moscow, Atomizdat, 1966, 164-169

TOPIC TAGS: radiation shielding, radiative capture, gamma radiation

ABSTRACT: The authors compare experimental and theoretical data on the function of effectiveness of shielding materials with respect to capture γ-radiation in nickel. The function of effectiveness is expressed as a linear combination of quantities of the type h_{Ap}

$$f(x) = h_{Ap} - \frac{\rho_B}{\rho_A} h_{Bp}$$

where ρ_A and ρ_B represent the concentrations of the respective components in the shield-

Card 1/3

ing materials. This function shows the change which takes place in the functional $J_{n,\gamma}$ when a unit of substance B is substituted for a unit of substance A where

$$J_{n,\gamma} = \sum_i \beta_i k_i \iiint \frac{\Phi(r_s, \mu, E)}{4\pi r_s^2} \Sigma_{n,\gamma}(r_s, E) e^{-\int_{r_s}^{H} \mu^i(r) dr} B_i d\mu dE dV$$

describes the production and yield of capture γ-radiation. In this formula $\Phi(r_s, \mu, E)$ is neutron flux; $\Sigma_{n,\gamma}(r_s, E)$ is the macroscopic cross section of radiation neutron capture; β_i is the yield of γ-quanta of given energy E_i per captured neutron; k_i is the dose created by a unit flux of γ-quanta of energy E_i; $\mu^i(r)$ is the total coefficient of linear absorption of γ-quanta of initial energy E_i; B_i is the dose factor for accumulation of γ-quanta of initial energy E_i. The function $f(x)$ was experimentally studied by introducing a hydrogen-containing substance into a nickel screen made up of sheets measuring 80×80×0.8 cm for an overall thickness of 25 cm. This specimen was surrounded by a neutron shield for reducing the background. A single-crystal scintillation gamma-spectrometer with a crystal of sodium iodide was used for measuring the number of capture γ-quanta with an energy of greater than 7 Mev produced by radiation capture of neutrons in the nickel. Curves are given showing neutron hazard functions with respect to capture γ-radiation. These functions describe the contribution of neutrons to the stream of γ-quanta behind the screen as a function of the neutron energy and inlet coordinate. The results show that the addition of hydrogen-containing material through nearly the entire thickness of the nickel layer increases the inten-

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ACC NR: AT6027932

sity of capture γ-radiation behind the screen. An exception to this rule is the first 6 cm of nickel where the neutron hazard function for low energy particles is less than the function for high energy neutrons so that a good moderator placed at these points reduces the intensity of capture γ-quanta behind the screen. The authors thank V. V. Orlov, V. Ya. Pupko and S. G. Tsypin for interest in the work. Orig. art. has: 4 figures, 17 formulas.

SUB CODE: 18/ SUBM DATE: 12Jan66/ ORIG REF: 005

Card 3/3

1. BELOV, S. S.

2. USSR 600

4. Physics - Study and Teaching

7. Use of visual aids in the rural school, Fiz. v shkole, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BELOV, S.S. (Rostovskaya oblast').

Mathematical meetings for pioneers. Mat. v shkole no.5:33-48 S-O '53.
(MLRA 6:9)
(Mathematics--Study and teaching)

STOICHEV, A.; TOPALOV, I.; BELOV, St.; PISEV, Iv.

Our experience with a combined contrast method. Khirurgiia, Sofia 14 no.2/3:356-359 '61.

1. Khirurgichno i rentgenovo otdelenie, Voenna bolnitsa, Sliven.

(PNEUMOPERITONEUM ARTIFICIAL)

BELOV, S.T.K.

"Problem in oil and gas content in mesozoic deposits in the south of the USSR"

report to be submitted for the 6th World Petroleum Congress, Frankfurt am Main, W. Germany, 19-26 Jun 63.

BELOV, S.V.; YEROKHIN, V.M.; ANOKHINA, L.M.; SOLOV'YEV, Yu.V.

Accounting for self-absorption and self-scattering in measuring absolute activity of thick-layer specimen. Prib.i tekh.eksp. 6 no.5:56-61 S-O '61. (MIRA 14:10)
(Nuclear counters)

BELOV, S.V.; BYCHKOV, A.F.

Determining the mean energy of β-radiation from low-activity samples. Atom. energ. 16 no.6:5[illegible] Je '64. (MIRA 17:7)

38520

S/186/62/004/003/013/022
E075/E436

24.6210

AUTHORS: Belov, S.V., Zhelezkov, R.V., Polyakov, N.T., Sidorov, N.V.

TITLE: Radiometric method for the determination of isotopic composition of cerium separated from the fission products of heavy nuclei

PERIODICAL: Radiokhimiya, v.4, no.3, 1962, 334-340

TEXT: A method is described for the quantitative determination of the isotopes of radioactive Ce, isolated radiochemically from Ce^{141}, Ce^{143}, Ce^{144} and their filial isotopes Pr^{143} and Pr^{144}. To determine the activity of Ce^{144} and Pr^{144} from the β-ray spectra, a β-spectrometer was used with an anthracene crystal and photomultiplier. Determinations of Ce^{141} and Ce^{143} were carried out using a scintillation γ-spectrometer. Analysis of impulse amplitudes was realized with a multichannel analyser АИ-100 (AI-100). The total activity of the products was measured with the 4-π-counters. The formula for the calculation of the activity of Ce^{144} is $A = K_{144} \times N_{144}$, where N_{144} is the total number of impulses/min registered in 53 to 100-m channels. The

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Radiometric method ...

value of K_{144} was found to be 18.9 ± 1.2. The activity of Ce^{143} was calculated by formula $A = K_{143} \times N_{143}$, in which K_{143} was found to be $(1.05 \pm 0.05) \times 10^2$. A similar formula was used for Ce^{141}, where K_{141} was $(1.40 \pm 0.08) \times 10^2$. Activity of Pr^{143} was found either from that of Ce^{143}, taking into account the accumulation, or by calculation from the total activity, measured by the 4-π-counter, of the combined activities of Ce^{141}, Ce^{143} and $Ce^{144} \rightarrow Pr^{144}$. Errors in the determinations of the activities did not exceed ± 10%. There are 4 figures and 2 tables.

SUBMITTED: May 6, 1961

Card 2/2

BELOV, S.V.; ANIKIN, V.S.

Gamma-spectrometric method of analyzing a mixture of iodine-131 and iodine-132 radioisotopes. Radiokhimiia 6 no. 1:132-135 '64. (MIRA 17:6)

BELOV, S.V.

Absorption of beta radiation in thin layers of aluminum. Zav.lab. 30 no.4:449-452 '64. (MIRA 17:4)

BELOV, S.V., inzhener; SMIRNOV, G.Ya., inzhener.

Using machinery for the mechanization of loading and unloading.
Mekh.stroi. 13 no.6:17-21 Je '56. (MIRA 9:9)
(Loading and unloading)

BELOV, S.V.

Method of instrumental transition from strip to strip in the case of large and medium scale aerial photographs. Trudy Lab.aerometr. 4 '55. (Photography, Aerial) (MLRA 9:2)

BELOV, S.V., ALEKSEYEV,-SHEMYAKIN, V.P.

Change from flight course to flight course by the instrumet method in medium and large-scale aerial surveying. Trudy Lab.aeromet. 5:3-36'56.
(Photography, Aerial) (MLRA 10:1)

HELOV, S.V.

Fuzziness of pictures in aerial photographs caused by movements of the airplane. Trudy Lab.aeromet. 5:61-71 '56. (MLRA 10:1)
(Photography, Aerial) (Photogrammetric pictures)

BELOV, S.V.; ARTSYBASHEV, Ye.S.

Studying the reflecting ability of trees. Bot.zhur. 42 no.4:517-534 Ap '57. (MLRA 10:5)

1.Laboratoriya aerometodov Akademii nauk SSSR, Leningrad.
(Trees) (Reflection (Optics))

SAMOILOVICH, G. G. and BELOV, S. V. (Cand. Agric. Sci. Leningrad.)

Phenological Conditions of Woods Observed by Aerovisual Reconnaissance and Colored Aerophotography."

report presented at a Phenological Conference in Leningrad, Nov 1957, by the USSR Geographical Society.

BELOV, S.V., red.

[Scientific records of a forest group] Uchenye zapiski lesnoi gruppy. Leningrad, 1958. 143 p. (MIRA 11:11)

1. Akademiya nauk SSSR. Laboratoriya aerometodov.
(Photography, Aerial)
(Aeronautics in forestry)

BELOV, S.V.

3(4) PHASE I BOOK EXPLOITATION SOV/1835

Akademiya nauk SSSR. Laboratoriya aerometodov

Trudy, t. 6 (Transactions of the Laboratory of Aerial Methods, USSR Academy of Sciences, Vol 6) Moscow, Izd-vo AN SSSR, 1958. 280 p. Errata slip inserted. 1,500 copies printed.

Resp. Ed.: V.P. Miroshnichenko, Candidate of Geological and Mineralogical Sciences; Ed. of publishing House: D.N. Kudritskiy; Tech. Ed.: E.Yu. Bleykh.

PURPOSE: This volume is intended for geologists, photo interpreters, or other personnel engaged in the study of landscape formations, especially from the standpoint of aerial photography.

COVERAGE: This collection of studies and brief articles treats problems in aerial photography and photo interpretation in relation to geological phenomena. The geographical area of study, with minor exceptions, is the Caspian plains and western shore. Most of the studies are well illustrated with aerial photographs. Aside from the numerous articles on geological phenomena of the Caspian basin, the following are also covered: portions of the Russian platform, the Muyunkumy sands of Central Kazakhstan, photo interpretation of clayey flats, desert vegetation and tree cover, the effective lens speed of photographic objectives, photogrammetric determination of profiles on hydro technical models, and others. No personalities are mentioned. References follow each main article.

TABLE OF CONTENTS:

Card 3/6

ARTSYBASHEV, Ye.S.; BELOV, S.V.

Reflectivity of trees. Trudy Lab. aeronet. 6:120-145 '58.
(MIRA 12:1)
(Trees--Spectra) (Photographic interpretation)

BELOV, S.V.; BEREZIN, A.M.

Importance of natural and technical conditions and type of film for aerophotographic study of forests. Trudy Lab. aerometod. 6:146-175 '58. (MIRA 12:1)
(Forests and forestry) (Photographic interpretation)

26-58-7-9/48

AUTHOR: Belov, S.V., Candidate of Agricultural Sciences

TITLE: Care for Forests (Berech' lesa)

PERIODICAL: Priroda, 1958, Nr 7, pp 55-58 (USSR)

ABSTRACT: Since 1949, a wide forest belt between the Ob' and Yenisey rivers (57 to 58° north latitude) suffered from mass propagation of the Siberian silkworm Dendrolimus sibiricus. The damage caused by the caterpillars in the forests of the Pribaykal region and the Chita Oblast from 1949 to 1952, and in the Tomsk Oblast in the Chulym river basin and the Krasnoyarsk Kray from 1950 to 1956, grew to dimensions of a major disaster. An estimated 8 million ha of forests, consisting of 30% spruce, 25% fir, 30% cedar, 15 to 20% birch and aspen and small amounts of pine, coniferous trees of an average 140 to 180 years with a yield of 200 to 250 cu m per ha, were devastated. In addition to this, rot and the spruce longhorn Monochamus urussovi, with 40 larvae per running meter, threaten additional forest expanses. The huge losses are acutely felt by the forest economy, the railroads, pencil factories and all industrial branches depending on wood supplies. Losses, especially of cedar, spruce and fir

Card 1/3

trees, endangered the food basis for fur-bearing squirrels, martens and several wild fowl. Although the Glavnoye upravleniye lesnogo khozyaystva i polezashchitnogo lesorazvedeniya Ministerstva sel'skogo khozyzystva SSSR (Main Administration of the Forest Economy and Farmland-Protecting Forest Cultivation of the USSR Ministry of Agriculture) has known of the danger threatening these forests since 1949/50 and studied the biology of the pest, the measures taken at last were too late and ineffective. When insecticides were spread from the air in the Tegul'det Rayon in 1956, the number of caterpillars per tree had already amounted to 40,000. Since it is estimated that the poison kills about 95%, the remaining 5% or 2,000 caterpillars a tree suffice to finish off the forests. It is important to recognize from the very beginning the activities of forest pests. Therefore, the Forest Group of the Laboratory of Air Methods of the AS USSR in 1957 developed a method of spectrozonal air photography of the forests infested by the Siberian silkworm and a second method of ensuing interpretation and evaluation of these photographs. The experimental photos were made on 5 types of air photography films, the panchromatic T-10-800, the orthochromatic RF-3, the infra-

chromatic I-760, the spectrozonal two-layer SN-2 and the three-layer color TsN-1. The spectrozonal SN-2 film in connection with an orange OS-14 light filter proved to be the most suitable combination for the purpose of recognizing by color shades the spots of deciduous and coniferous, infested and non-infested trees on the air photograph of a vast forestscape.
There is 1 graph and 4 photos on insert.

ASSOCIATION: Laboratoriya aerometodov AN SSSR - Leningrad (The Laboratory of Air Methods of the AS USSR - Leningrad)

1. Forestry--Preservation--Theory

Belov S.V.

PHASE I BOOK EXPLOITATION SOV/3815
SOV/7-M-7

Akademiya nauk SSSR. Laboratoriya aerometodov

Trudy, tom 7: Materialy VII Vsesoyuznogo mezhduvedomstvennogo soveshchaniya po aeros"yemke, 25 noyabrya - 1 dekabrya 1956 g. (Transactions of the Laboratory of Aerial Methods, Academy of Sciences USSR, Vol. 7: Materials of the 7th All-Union Interdepartmental Conference on Aerial Surveying) Moscow, 1959. 331 p. 1,400 copies printed.

Editorial Board: A.V. Glagolev, V.G. Zdanovich, N.G. Kell' (Resp. Ed.), D.M. Kudritskiy, K.S. Lyalikov, and G.G. Samoylovich; Ed. of Publishing House: D.M. Kudritskiy; Tech. Ed.: M.Ye. Zendel'.

PURPOSE: This collection of articles is intended for photogrammetrists. The articles will be of interest to all governmental and industrial agencies concerned with aerial photography.

COVERAGE: This is the first volume of a 2-volume work containing reports read at the All-Union Conference on Photogrammetry which took place in Leningrad from November 25 to December 1, 1956, under the auspices of the Laboratory of Aerial Photography Methods of the Academy of Sciences USSR. These reports describe the principles and applications of photo interpretation in the fields of soil science, forestry, geology, hydrology, industrial development, etc. Individual reports discuss the equipment used and techniques employed. References accompany each article.

Card 6/15

(13)

BELOV, Sergey Vasil'yevich; BARANOV, N.I., otv.red.; KUDRITSKIY, D.M., red.izd-va; [redacted], E.Yu., tekhn.red.

[Using aerial photography in forest surveys] Aerofotos"emka lesov. Moskva, Izd-vo Akad.nauk SSSR, 1959. 219 p. (MIRA 12:9)

(Forest surveys)

BELOV, S.V.

Resolution of aerial photographs. Trudy Lab.aerometod. 7:78-101 '59. (MIRA 12:12)

1. Laboratoriya aerometodov AN SSSR.
(Photogrammetric pictures)

BEREZIN, Aleksey Maksimovich; KHARIN, Nikolay Gavrilovich; BELOV, S.V., red.; MEL'NIKOVA, M.S., red.izd-va; PARAKHINA, N.L., tekhn. red.

[Instruction manual for the use and interpretation of aerial photographs of forests in different spectral regions] Metodicheskoe posobie po ispol'zovaniiu spektrozonal'nykh aerosnimkov dlia deshifrirovaniia lesov. Moskva, Goslesbumizdat, 1960. 68 p. (MIRA 15:6)

(Forest surveys)

ALEKSEYEV, V.A.; BELOV, S.V.

Spectral reflecting power of trees and other objects of aerial photography in the Western Ukraine. Trudy Lab. aeromet. 10:105-122 '60. (MIRA 14:1)
(Ukraine, Western--Trees--Optical properties)
(Photographic interpretation)

BELOV, S. V.

Doc Agr Sci, Diss -- "Theoretical principles of forest aerial photography and use of aerial photographs for studying the timber stock". Krasnoyarsk, 1961. 56 pp with graphics, 22 cm (Inst of timber and wood, Siberian Branch of the Acad Sci USSR), 400 copies, No charge (KL, No 9, 1961, p 185, No 24380). /61-54847/

BELOV, Sergey Vasil'yevich, doktor sel'khoz. nauk; DMITRIYEV, Ivan Dmitriyevich, dots.; KOLOSOVA, Anna Yevmen'yevna, dots.; BELYAYEV, N.I., retsenzent; KIRILLOVA, L.D., red.; URITSKAYA, A.D., tekhn. red.

[Aerial photographic surveying and aviation in forest management] Aerofotos"emka i aviatsiia v lesnom khoziaistve; uchebnoe posobie dlia studentov lesokhoziaistvennogo fakul'teta. Pod obshchei red. S.V.Belova. Leningrad, Vses. zaochnyi lesotekhn. in-t, 1962. 256 p. (MIRA 16:10)

1. Nachal'nik otdela aerofotoizyskaniy Gosudarstvennogo instituta po proyektirovaniyu lesnogo transporta (for Belyayev).
(Aerial photogrammetry) (Aeronautics in forestry)
(Forest management)

SAMOYLOVICH, Georgiy Georgiyevich, prof. Prinimali uchastiye: YEREMEYEV, V.S.; KUDRITSKIY, D.N.; ZENIN, F.I.; BAKH, M.K.; CHELNOKOV, V.P.; GERTSENOVA, K.N.; RAFES, P.M.; ZAKHAROV, P.M.; DEYNEKO, V.F., doktor tekhn. nauk, prof., retsenzent; ZAKHAROV, V.K., prof., retsenzent; MIROSHNIKOV, V.S., dots., retsenzent; BELOV, S.V., doktor sel'khoz. nauk, red.

[Use of aerial photographic surveying and airplanes in forestry; aerial photography of forests and forest aviation] Primenenie aerofotos"emki i aviatsii v lesnom khoziaistve; aerofotos"emka lesov i lesnaia aviatsiia. Izd.2., dop. i ispr. Moskva, Lesnaia promyshl., 1964. 485 p.
(MIRA 17:10)

1. Kafedra lesnoy taksatsii i lesoustroystva Belorusskogo tekhnologicheskogo instituta (for Zakharov, Miroshnikov).

L 16363-65 EWT(m) DIAAP
ACCESSION NR: AP4045845 S/0075/64/019/009/1049/1052

AUTHOR: Belov, S. V.; Sidorov, N. V.

TITLE: Radiometric method for isotope analysis of Ce^{141}-Ce^{144} and Sr^{89}-Sr^{90} mixtures in samples of low total activity

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no 9, 1964, 1049-1052

TOPIC TAGS: beta spectrometry, radiochemical analysis, isotope analysis, cerium, strontium, praseodymium, yttrium

ABSTRACT: The purpose of this work was to develop a method for analyzing mixtures of radioactive isotopes with low radioactivity using scintillation -spectrometry. The β-spectrometer consists of an anthracene crystal scintillator (20 x 6 mm) and a 100 channel analyzer AI-100. The specimen is placed 3 mm from the crystal. The background of this spectrometer is very low; throughout the whole energy range (0.196-2.18 Mev) it does not exceed 1.3 cpm. Beta spectra of radioactive isotopes of cerium, praseodymium, strontium and yttrium

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L 16363-65
ACCESSION NR: AP4045845

are shown. The observed amplitude distribution beginning from the 20th and 50th channels results only from the -emission of praseodymium-144 and yttrium-90 respectively. The magnitude of the activity of Ce^{144} and Sr^{89} is found from the difference between the total activity of the sample, measured with 4 counter and the activity of $Ce^{144} \longrightarrow Pr^{144}$ and $Sr^{90} \longrightarrow Y^{90}$ respectively. The method has great advantages for analysis of low activity samples due to its high β-counting efficiency as well as due to the high accuracy of its results as compared with analysis by absorption curves using aluminum filters. The error of measurement of the activity of thick specimens does not exceed 10-15% while for thin film the error does not exceed 5%. Orig. art. has: 4 figures

ASSOCIATION: None

SUBMITTED: 12Aug63 ENCL: 00

SUB CODE: GP, NP NO REF SOV: 000 OTHER: 000

Card 2/2

YANSHIN, A.L., akademik; YAKOVLEV, Yu.Ya. (Moskva); PLOTKIN, S.Ya., kand.tekhn. nauk (Moskva); GVOZDETSKIY, N.A., prof.; NOVIK, I.B. (Moskva); SVINTSITSKIY, V.N. (Moskva); KOZLOV, V.V. (Moskva); SULIDI-KONDRAT'YEV, Ye.D. (Moskva); BELOV, S.V. (Leningrad)

oks. Priroda 54 no.7:56-57; 71; 104-111 Jl '65.

(MIRA 18:7)

. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (for Gvozdetskiy).

BELOV, S.V.; ANIKIN, V.S.

Determination of the total fissions in a natural mixture of uranium during its irradiation by neutrons. Radiokhimiia 7 no.1:120-124 '65. (MIRA 18:6)

L 25677-66 EWT(l)/EWT(m)/ENA(d)/ENP(t) DIAAP/IJP(c) JD/JW

ACC NR: AP6002704 SOURCE CODE: UR/0058/65/049/006/1681/1688

AUTHOR: Gol'danskiy, V. I.; Belov, V. F.; Devisheva, M. N.; Trukhtanov, V. A. 69

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR) B

TITLE: Investigation of internal magnetic fields on Fe^{57} nuclei in Ni-Zn ferrites by the nuclear gamma resonance method

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1965, 1681-1688

TOPIC TAGS: Mossbauer effect, ferrite, iron, line splitting, magnetic field, electron density, zinc compound, ferromagnetic material, paramagnetic material

ABSTRACT: The authors obtained the Mossbauer spectra of the Ni-Zn series of ferrites and determined the values of the internal magnetic field on the Fe^{57} nuclei with the zinc concentration varied from 0 to 1 (at 300 and 78K). The apparatus used was of the electrodynamic type, described in detail elsewhere (Zavodskaya laboratoriya No. 12, 1965). The ferrites were prepared by a standard ceramic technique. From the spectra obtained it is deduced that with increasing zinc content, up to total substitution of zinc for the iron ions, the ferrite goes over from the ferrimagnetic ordered state to a paramagnetic state. The line splitting in the pure nickel ferrite can be attributed to the existence of two fields with different ion positions. Smaller values of the field correspond to tetrahedral positions of the iron ions. Both the positive components of the field and the electron density in the region increase simultaneously.

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L 25697-66

ACC NR: AP6002704

At 78K the character of the Mossbauer spectra is similar to that at room temperature, except that the lines converge at larger zinc contents, the internal magnetic field on the nuclei are larger, and the difference in the values of the internal field due to the different positions of the iron ions is also larger. With increasing zinc content, the field on the iron nuclei in both the tetrahedral and in the octahedral sublattice decreases, in contradiction to the data obtained by Abe, Matsuura, et al. (J. Phys. Soc. Japan v. 18, 1400, 1963). Orig. art. has: 5 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 25May65/ ORIG REF: 002/ OTH REF: 015

Card 2/2

L 32836-66 EWT(m)/EWP(e)/EWP(k)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6010270 SOURCE CODE: UR/0145/66/000/001/0158/0163

47
45
B

AUTHOR: Belov, S. V.(Candidate of technical sciences)

ORG: None

TITLE: The determination of average pore dimensions of sintered porous metals

SOURCE: IVUZ. Mashinostroyeniye, no. 1, 1966, 158-163

TOPIC TAGS: porosity, porous metal, powder metal

ABSTRACT: The average size of pores is one of the important characteristics of porous media determining the filtering properties of porous media and the hydraulic resistance in the filtration of fluids and gases through pores. Consequently, the author investigates the determination of average dimensions of pores of sintered porous metals made of spherical particles (bronze) and particles of arbitrary form (nichrome, stainless steel, iron). Experimental data presented in the article concerning the average size of the pores were obtained by squeezing liquids through the pores, by microphotographic methods, and by the simultaneous solutions of two equations. An analysis of the results shows that the values of average pore dimensions are influenced by the size of the particles, the porosity,

Card 1/2 UDC: 621.9-496

ACC NR: AP6010270

the specific pressing pressure, and the amount and type of filler. Data concerning the coefficient of winding of the pores are also given. The paper was presented by Cand. Techn. Sci. Docent Kudryavtsev, V. M., of the MVTU im. N. E. Bauman, 4 Feb 65. Orig. art. has: 11 formulas and 4 figures.

SUB CODE: 11 / SUBM DATE: 04Feb65 / ORIG REF: 004 / OTH REF: 002

LS

Card 2/2

ACCESSION NR: AP4033614 S/0032/64/030/004/0449/0452

AUTHOR: Belov, S. V.

TITLE: Absorption of beta radiation in thin layers of aluminum

SOURCE: Zavodskaya laboratoriya, v. 30, no. 4, 1964, 449-452

TOPIC TAGS: beta ray absorption, radioactivity, measurement correction, counter geometric factor, absorber thickness, counter MST 17

ABSTRACT: A study was made of beta ray absorption in thin layers of aluminum. The data obtained are important in determining the correction (based on both absorption and scattering of beta rays) for counter measurements in studying the absolute radioactivity of samples. The method of extrapolating to zero absorber thickness is fundamentally incorrect since the absorption curve depends on maximum beta energy, the form of the continuous electron spectrum, and geometrical conditions. Previous studies for air absorption gave results with sufficient accuracy, but studies for mica and aluminum absorption gave contradictory results. Experimental conditions were selected so as to produce minimal interference. An open window counter filled to the pressure of 10 cm Hg with helium and alcohol (8 to 1) working mixture was 99% effective. The beta scattering from the counter

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ACCESSION NR: AP4033614

cap walls was <0.1%. The source (<8 mm) was 50 mm from the brass diaphragm, with a filter placed between, and random scattering was prevented by a cone. The counter had a plateau at 150-200 v (<1% in 100 v). Nearly 20 radioactive isotopes were investigated over the energy range 0.046-1.61 Mev, and the experimental findings (~3% experimental error) of 3-17 samples were plotted on semilogarithmic coordinates. This plot fell off more rapidly than a linear plot up to 15 mg/cm^2. The study of absorption over a broad energy band established a relationship between the correction factor and the average beta energy. The results obtained here may be used also for complex decay studies. Corrections for absorption in mixtures (calculated from these results) agreed to within 4% with experimental determinations. Comparison of the correction due to absorption obtained by extrapolation to 0 thickness with corrections based on these data shows the former to be too large by as much as 300%. Radioactivity measurements under standard manufacturing conditions can be corrected with these data. The combined absorption in aluminum and air above a minimum filter thickness (5.5 mg/cm^2) may be determined directly from graphs. The results are applicable to other radioisotopes. The geometric factor of an industrial counter MST-17, determined with the help of several isotopes, proved to be inconsequential. Orig. art. has: 5 graphs, 3 tables, and 1 equation.

Card 2/3

KRUSTINCV, G., prof.; VASILEV, N., dots.; BELOV, St.; TSANKOV, N.

Our experience with geriatric surgery. (Analysis of 360 treated cases). Khirurgiia 17 no.2:181-183 '64.

1. Iz Visshiia voennomeditsinski institut, Sofiia.

L 29701-66

ACC NR: AP6020854 SOURCE CODE: BU/0016/65/000/008/0486/0492

18
B

AUTHOR: Belov, St.

ORG: Clinic for Thoracic and Cardiovascular Surgery, Military Medical Academy /headed by Prof. G. Krustinov/, Sofia (Klinika po grudna i surdechno-sudova khirurgiya pri VVMI)

TITLE: Congenital arteriovenous anastomoses or Klippel-Trenoney disease

22

SOURCE: Suvremenna meditsina, no. 8, 1965, 486-492

TOPIC TAGS: surgery, circulatory system disease

ABSTRACT: Comprehensive review of this rare disease and report of 2 cases in boys aged 4 and 10, respectively, successfully treated by repeated surgical interventions. [JPRS]

SUB CODE: 06 / SUBM DATE: 00Feb65 / OTH REF: 016 / SOV REF: 005

Card 1/1 CC

BELOV, T.

Reconstruction of navigation installations in the Ob' Basin.
Rech. transp. 20 no. 1:37-38 Ja '61. (MIRA 14:2)

1. Inzhener sluzhby puti Obskogo basseynovogo upravleniya puti.
(Ob' Valley—Signals and signaling)

BELOV, V., inzhener-mekhanik

The use of motor fuel in marine engines. Mor.flot 15 no.5: 15-16 My '55. (MLRA 8:6)
(Marine engines) (Motor fuels)

VAYNER, I., inzh.; BELOV, V., inzh; AFANAS'YEV, A. (g.Lenigrad); BRASLAVSKIY, A. (g.Lenigrad); PANFILOV, A., instrumental'shchik (g.Berdyansk); VOLKOV, I. (Tashkent)

Suggested, created, introduced. Izobr. i rats. no.6:12-13 Je '61. (MIRA 14:6)

1. Zavod "Penzkhimmash" (for Vayner, Belov).
(Technological innovations)

BELOV, V.; VLADIMIROV, G.

Stream of synthesis starts in the test tube. IUn.tekh. 7 no.5: 40-46 My '63. (MIRA 16:6)
(Moscow--Chemistry, Technical--Research)

BELOV, V.

Following the call of your heart. NTO 5 no.4:26-27 Ap '63.
(MIRA 16:3)

1. Predsedatel' soveta Nauqhno-tekhnicheskikh obshchestv i glavnyy inzh. Kolomenskogo teplovozostroitel'nogo zavoda imeni V.V.Kuybysheva..
(Kolomna—Diesel locomotives)

OREL, V., red.; BELOV, V., red.; GALKIN, S., red.; KRAMINOV, A., red.; SMIRNOV, K., red.; SHOSTAKOVSKIY, V., red.; SIDNEVA,N., red.

[Virgin-land planet] Planeta TSelina. Moskva, Molodaia gvardiia, 1965. 157 p. (MIRA 18:4)

BELOV, Vl.

Desert and outer space; from the notebook of a reporter. IUn.tekh. 7 no.3:23-27 Mr '63. (MIRA 16:3)

(Kara Kum--Oil fields)

BELOV, V.

Automatically controlled street lighting. IUn.tekh. 7 no.3: 39-41 Mr '63. (MIRA 16:3)

1. Rukovoditel' radiokruzhka Armavirskoy sredney shkoly No.6. (Armavir--Lighting) (Automatic control)

L 53708-65 EWT(d)/EWT(m)/FA/EPF(c)/EWA(d)/EWP(j)/T/EWP(t)/EWP(h)/EWP(b)/EWP(l) Pc-4/Pr-4 IJP(c) JD/RM

ACCESSION NR: AP5014796 UR/0092/65/000/006/0018/0019

AUTHOR: Nezhlumov, O. (Director); Belov, V. (Assistant director of scientific dept); Shaymardanov, I. (Senior research associate of drilling dept) 34 B

TITLE: Dirigibles in the age of supersonic aircraft

SOURCE: Neftyanik, no. 6, 1965, 18-19

TOPIC TAGS: lighter than air aircraft, economics, transport aircraft 14

ABSTRACT: The problem of using dirigibles in the Soviet economy was raised at the first All-Union Conference of Airship Designers held recently in Novosibirsk. It was stressed that dirigibles possess valuable characteristics which in some respects make them superior to both the airplane and the helicopter. Future dirigibles will use an inert lifting gas (helium), will be powered by diesel and gas-turbine engines, and will have envelopes made of durable, inexpensive, and light-weight synthetic materials. A dependable, all-weather dirigible is urgently needed for hauling bulk freight in such hard-to-reach areas as the gas fields of the Tyumen' region in Siberia.

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L 53708-65

ACCESSION NR: AP5014796

0

According to estimates, if the ton-kilometer cost of transporting freight by airplane is taken as 1, the cost for the helicopter would amount to 5.65, while for the dirigible it would be only 0.33. Orig. art. has 1 figure.

ASSOCIATION: Institute Giprotyumen'neftegaz

SUBMITTED: 00 ENCL: 00 SUB CODE: AC, GO

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4016-F

Card 2/2

9,2510

26804
S/142/61/004/002/006/010
E140/E485

AUTHORS: Malanov, V.V., Polov, K.P. and Belov, V.A.

TITLE: Experimental development of an audio-frequency pulsed power amplifier

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1961, Vol.4, No.2, pp.204-207

TEXT: The purpose of this brief note is to describe experiments for determining the usefulness of pulse amplification for high power audio signal amplification. The amplifier developed had a power of 1200 W and an efficiency about 50%, with quality corresponding to class-B amplifiers. Symmetrical pulse-width modulation was used, with triangular pulses, passing into pulse amplitude modulation at low levels. The output stages were triodes, operating with positive grid. At 1000 cps, the output power was 1250 W with an efficiency of 50%, while at moderate signal level the efficiency was 10%. This compares with the efficiencies of existing amplifiers of 30% at maximum signal level and 3 to 4% at medium levels. The experimental amplifier developed 4 to 5% nonlinear distortion, which the authors claim

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Experimental development of ...

can be eliminated by simple measures. The authors believe that the pulsed amplifier is less reliable than the corresponding conventional amplifiers, due to its greater complexity. On the other hand, gas-filled devices can be used for this application, thereby increasing the reliability. There are 6 figures and 6 Soviet references.

ASSOCIATION: NIRFI pri Gor'kovskom gos. universitete im. N.I.Lobachevskogo (NIRFI at Gor'kiy State University imeni N.I.Lobachevskiy)

SUBMITTED: May 20, 1960 (initially)
July 23, 1960 (after revision)

Card 2/2

L 01831-66 EWT(l)/EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(t)/EWP(b) IJP(c)
JD/JG/AT

ACCESSION NR: AP5020569 UR/0294/65/003/004/0645/0648

AUTHOR: Belov, V. A.; Klyuchnikov, N. I.

TITLE: Collision integrals for the lithium-hydrogen system. Viscosity of mixtures of lithium-hydrogen

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 4, 1965, 645-648

TOPIC TAGS: collision integral, lithium hydrogen, gas viscosity, plasma physics, ionized plasma

ABSTRACT: In the calculation of the kinetic coefficients of rarefied gases, use is made of collision integrals $\Omega^{(l,s)}_{(1)}$. The present article gives calculations of the integrals

$$\Omega^{(2,2)}_{Li\text{-}H},\ \Omega^{(2,2)}_{Li\text{-}Li},\ \Omega^{(2,2)}_{H\text{-}H},\ \Omega^{(1,1)}_{H\text{-}H^+},\ \Omega^{(2,2)}_{H\text{-}H^+},$$

and the viscosity of a weakly ionized plasma in the temperature interval 1000-10,000 K, and at pressures of 1, 10, 10^2, 10^5 newtons/m^2. Calculations were also made for mixtures of lithium and hydrogen based on the obtained experimental

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L 01831-66

ACCESSION NR: AP5020569

3

data. In the high temperature regions from 3000-8000 and 9000-10,000 K, where the mixture is almost binary, the error is estimated at 50%. These results are completely suitable for use. In the temperature intervals 1000-3000 and 8000-9000 K, the composition changes very sharply and it is very difficult to calculate the viscosity accurately, even if accurately calculated collision integrals are available. These results are of a qualitative character, they illustrate the general course of the viscosity curve in these temperature intervals, and the errors here can be very substantial. Orig. art. has: 7 formulas, 1 figure and 2 tables

ASSOCIATION: Nauchno-issledovatel'skii institut vysokikh temperatur (High Temperature Research Institute)

44,55

SUBMITTED: 31Aug64 ENCL: 00 SUB CODE: GP, ME

NR REF SOV: 001 OTHER: 014

Card 2/2

BELOV, V.A.

Burnishing of planes with ball heads. Stan.i instr. 34 no.4: 21-24 Ap '63. (MIRA 16:3)

(Metals--Finishing)

BELOV, V.A., inzh.

Surface hardening of cast iron with ball heads. Vest.mashinostr. 43 no.1:70-74 Ja '63. (MIRA 16:2)
(Surface hardening)

BELOV, V.A., inzh.; SMIRNOV, B.I., inzh.

Selecting allowances and fits for capron bearings. Vest.mashinostr. 43 no.9:39-41 S '63. (MIRA 16:10)

CHERNOV, A.I.; BELOV, V.A.

New electrical apparatus of the VL60 electric locomotive. Elek. i tepl. tiaga 7 no.6:28-30 Je '63. (MIRA 16:9)

1. Rukovoditeli grupp otdela glavnogo konstruktora Novocherkasskogo elektrovozostroitel'nogo zavoda.
(Electric locomotives)

BELOV, V.A., inzh.

Effect of surface hardening of planes on their joint rigidity.
Vest.mashinostr. 44 no.3:46-49 Mr '64. (MIRA 17:4)

"Authors abstracts of dissertations." Vest. mashinostroyeniya, no.9, 1964, p.86.
(title of degree not given)

L 8916-65
ACCESSION NR: AP4046181

thermal phenomena arisi[illegible]uring polishing of hard alloys. He establishes a connection between the temperature and the technological indices of the process, and he proposes methods and measures for most efficient polishing. N. P. Bornatskiy: Theory of gear engag[illegible] and a method for making worm gears with high load capacity; Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnic Institute). This represents a search for new types of spur gears with high load capacity. The author examines a worm gear with a worm profile limited by a circular arc in axial and normal sections of the turn. He proposes and makes a thorough study of worm gears with convolute worms of a new type, having a concave profile in axial section. He discusses the method and results of experimental investigation on worm gears with worms polished by a toroidal device using the F. L. Litvin method. V. V. Shul'ts: The geometry and load capacity of spur gears; Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnic Institute). This is a study on increasing the load capacity of worm gears by changing the geometry of the contact surfaces of the teeth. The parameters of the initial circular shape of the worm gears are determined for high load capacity. The author has designed a gear having twice the load capacity of correlative involute gears. V. A. Belov: A method of hardening the surface of a spherical head and the effect of this on the operational properties of the surface; Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnic Institute). The author's study permits a scientific and practical evaluation of a series of

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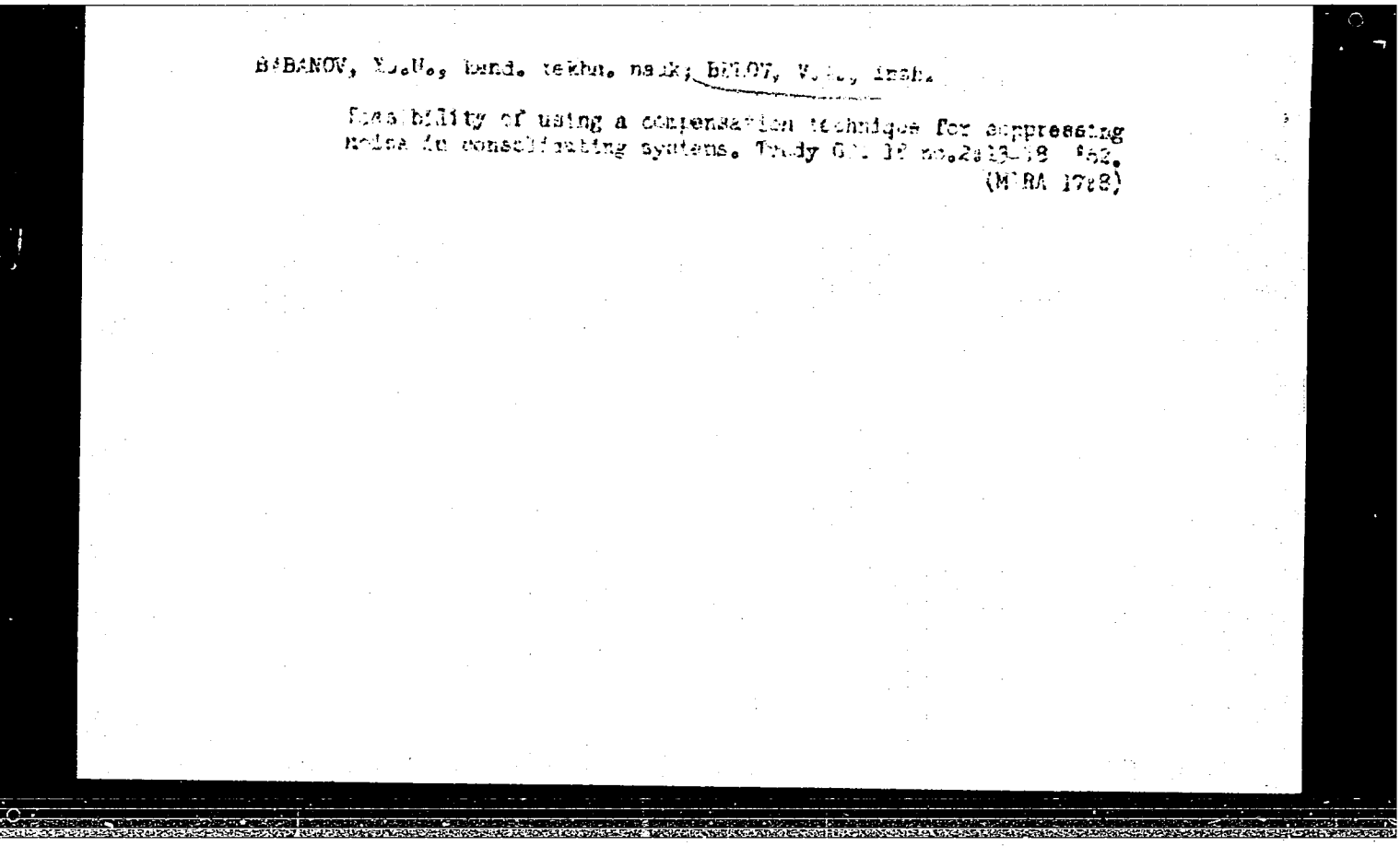
L 8916-65
ACCESSION NR: AP4046181

important factors affecting the surface hardening of spherical heads. Experiments show that surface hardening increases many times the durability of cast iron and steel when subjected to friction with boundary lubrication during oxidizing abrasion. The labor expended and the cost of this treatment are 1.2 to 2.2 times less than those called for by standard milling and polishing to give identical quality. S. P. Maksimov: Natural oscillation of rotors caused by the oil layer of plain bearings; Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnic Institute). This paper gives results of theoretical and experimental study of self-excited oscillations of a rotor in plain bearings. Rigid and elastic rotors were examined. Amplitude and stability of movements were measured. The author describes the behavior of the rotor during self-oscillation, and he considers the effect of different factors on this oscillation. M. R. Besser: Investigation on increasing productivity during internal in-feed grinding; Saratovskiy politekhnicheskiy institut (Saratov Polytechnic Institute). This contains scientifically based recommendations for diminishing machine time during internal in-feed rough grinding. The author has investigated blunting and self-sharpening, and he has set up objective criteria for this. Results of this work have led to increased productivity of 15-20% in internal in-feed rough grinding.

ASSOCIATION: none

Card 3/6



BABANOV, N.N., kand. tekhn. nauk; BILOV, V.I., inzh.

Feasibility of using a compensation technique for suppressing noise in conciliating systems. Trudy GPI 12 no.2:13-18 '62.
(MIRA 17:8)

BELOV, V.A., inzh.; SHUSHIN, V.M., inzh.

Suppression of radio interference in overhead communication lines. Vest. sviazi 25 no.4:8 Ap '65. (MIRA 18:6)

ACC NR: AP7002999 (A,N) SOURCE CODE: UR/0413/66/000/024/0104/0104

INVENTOR: Forisenkov, S.A.; Lyubchenko, A.A.; Danilevskiy, O.F.; Belov, V.A.; Kagan, E.S.; Filimonov, D.I.; Lagoshnaya, Yu.M.; Kholodnik, N.P.; Belorossova, A.S.; Korshunov, V.A.

ORG: none

TITLE: A method of producing clad steel sheets. Class 49, No. 189671

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 104

TOPIC TAGS: sheet metal, metal cladding, stainless steel, metal rolling

ABSTRACT:

This Author Certificate introduces a method of producing stainless steel-clad steel sheets by rolling electric-arc faced slabs. To increase the resistance against intergranular corrosion, facing is done with a flat electrode from a stainless chromium-nickel steel containing not less than 0.8% niobium. [MS]

SUB CODE: 11, 13/ SUBM DATE: 20Nov62/ ATD PRESS: 5114

Card 1/1 UDC: 621.791.92

ACC NR: AP7005600 (A) SOURCE CODE: UR/0413/67/000/002/0037/0037

INVENTOR: Ogiyevich, V. A.; Belov, V. A.; Bulgach, A. S.; Mayorchuk, A. Z.; Rusanov, N. T.; Titov, M. A.; Khmelevskiy, V. N.

ORG: None

TITLE: An installation for mixing and laying concrete directly on roads or airfield aprons. Class 19, No. 190399 [announced by the All-Union Scientific Research Institute of Construction and Road Machinery (Vsesoyuznyy nauchno-issledovatel'skiy institut stroitel'nogo i dorozhnogo mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 37

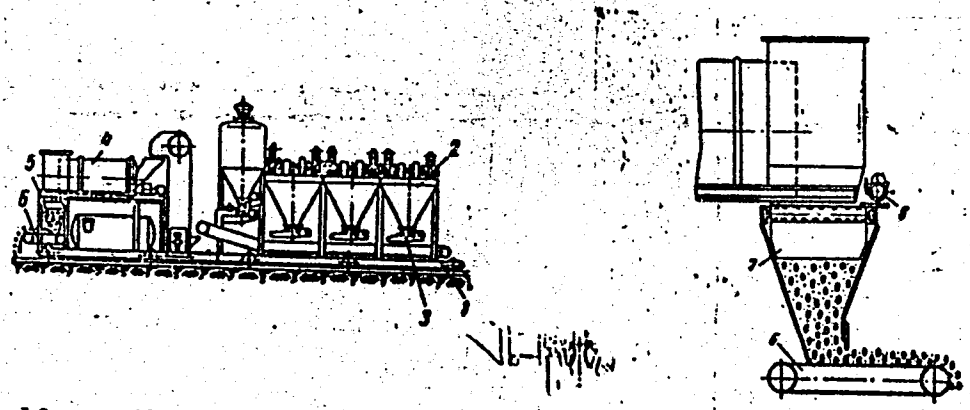
TOPIC TAGS: concrete, runway construction, highway construction, construction machinery, airfield maintenance equipment

ABSTRACT: This Author's Certificate introduces an installation for mixing and laying concrete directly on roads or airfield aprons. The unit includes a self-propelled undercarriage on which are mounted mechanisms for receiving, charging, feeding, batching and mixing the concrete components. The device also contains a mechanism for laying the concrete, including a distributive hopper and a belt-conveyor feeder. Provision is made for relating the feed rate of this conveyor mechanism to the forward velocity of the installation and also for distributing the concrete mixture uniformly with respect to the width of the strip being laid. The belt-conveyor feeder has a chain-and-plate speed regulator and guides are mounted in the upper section of the

Card 1/2 UDC: 693.546.2.002.5

ACC NR: AP7005600

distributive hopper with a reciprocating shaker block.



1--self-propelled undercarriage; 2--receiving mechanism; 3--batching mechanism; 4--mixing mechanism; 5--distributive hopper; 6--belt-conveyor feeder; 7--shaker block; 8--speed regulator

SUB CODE: 13/ SUBM DATE: 10Aug65

Card 2/2

BELOV, V. B.

PA 15T40

USSR/Chemistry - Amines Feb 1947
Chemistry - Diphenylamine, Methyl

"The Problem of Preparing the Oxides of the Tertiary Aromatic Amines," V. B. Belov, K. K. Savich, 4 pp

"Zhur Obshch Khim" Vol XVII, No 2

A convenient method of forming the methyldiphenylamine oxide by oxidation at 40 - 50° of methyldiphenylamine with a mixture of perhydrol and acetic anhydride.

15T40

BELOV, V. B., gornyy inzh.; ZHAVLYUCHENKO, A. I., gornyy inzh.; KHUDYAKOV, M. Ya., gornyy inzh.; SHENDEROVICH, I. M., gornyy inzh.; SONKIN, V. D., gornyy inzh.

Anchor bolting in hydraulic mines. Ugol' Ukr. 6 no.10:31-32 O '62. (MIRA 15:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut gidrodobychi uglya.

(Donets Basin—Hydraulic mining)
(Mine roof bolting)

KARACHENTSEV, V.I.; PEREVERZEV, M.P.; BELOV, V.B.

Mining methods used in the hydraulic mines of the Donets Basin. Ugol' 37 no.6:34-36 Je '62. (MIRA 15:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut gidrodobychi uglya.

(Donets Basin—Hydraulic mining)

YEVENKO, V.I.; [illegible]; BELYANKIN, A.A.; DOLINZHEV, A.I., redaktor; DROBINSKIY, V.A., redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[Theory and calculations for steam locomotives] Teoriia i raschet parovoza. Moskva, Gos. transp. zhel-dor. izd-vo 1951. 319 p.
(Locomotives) (MLRA 8:2)

BELOV, V. F.

The council of the scientific-technological society has replaced the technological council. NTO no.10:43-45 O '59.
(MIRA 13:2)

1. Predsedatel' pervichnoy organizatsii Nauchno-tekhnicheskogo obshchestva Kolomenskogo teplovozostroitel'nogo zavoda.
(Kolomna--Diesel locomotives)

1. BELOV, V.F.

2. USSR (600)

4. Linen

7. Producing linen fabrics on broad and narrow looms. Tekst.prom. 12 no.12 1952

9. Monthly List of Russian Accessions, Library of Congress. March 1953. Unclassified.

BELOV, V.F.; KUSNER, B.A. (Moskva)

RSh-3 machine for fabric stitching and simultaneous pressing of seams. Shvein.prom. no.6:8 N-D '59. (MIRA 13:4)
(Clothing industry--Equipment and supplies)
(Sewing machines)

24(3)

AUTHORS: Smol'kov,N.A.,and Belov,V.F. SOV/55-58-4-17/31

TITLE: Investigation of the Ferrite Properties for Pulse Conditions (Issledovaniye svoystv ferritov v impul'snom rezhime)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya 1958, Nr 4, pp 147-154 (USSR)

ABSTRACT: The authors investigated the temperature dependence of the impulse characteristics of the magnesium-manganese ferrite and the copper-manganese ferrite, used in the technical cybernetics for the construction of "magnetic memory". It was stated that for a change of temperature from -196°C to +140°C there appears a narrowing and a diminution of the hysteresis loop of a ferrite core. For an increasing temperature, the time of magnetic polarity reversal and the threshold field H_c (compare Kittel [Ref 10]) become smaller too. The authors thank Professor Ye. I.Kondorskiy for the discussion of the results.
There are 8 figures, and 12 references, 1 of which is Soviet, 1 German, and 10 American.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: October 19, 1957

Card 1/1

24(3)

AUTHORS: Smol'kov,N.A.,and Belov,V.F. SOV/55-58-4-19/31

TITLE: Magnetic Properties of the Solid Solution in the System $Mg\ Fe_2O_4$ - $Mn\ Fe_2O_4$ (Magnitnyye svoystva tverdykh rastvorov v sisteme $Mg\ Fe_2O_4$ - $Mn\ Fe_2O_4$)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki,astronomii, fiziki, khimii, 1958, Nr 4, pp 163-170 (USSR)

ABSTRACT: The author investigates statistical magnetic, and high-frequency properties of several ferrites $Mg\ Fe_2O_4$ - $Mn\ Fe_2O_4$. If the roasting of the ferrites takes place in an inert medium, then the susceptibility and the remaining magnetic induction decreases, while the coercive force increases if the content of Mn-ferrite increases. The rotation angle of the plane of polarization increases quicker than the damping if the content of Mn-ferrite is little. The authors thank Professor Ye.I.Kondorskiy for valuable advices.
There are 9 mappings and 7 references, 3 of which are Soviet, and 4 American.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: November 28, 1957

Card 1/1

24(3)

AUTHORS: Smol'kov, N. A., Belov, V. P. SOV/48-23-3-15/34

TITLE: Several Properties of Ferrites Under Pulse Conditions (Nekotoryye svoystva ferritov v impul'snom rezhime)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 357-360 (USSR)

ABSTRACT: The pulse device shown in figure 1 as a block diagram was used in the present investigation for examining the duration of magnetic reversal. The duration of magnetic reversal was visually read from the width of the signal appearing on the screen of the synchroscope. Figure 2 shows the isothermal lines $H_m = f\left(\frac{1}{\tau}\right)$ for industrial ferrite Nr 1, which is used in computers. Figure 3 gives the temperature dependences H_o and S_w. H_o denotes the value of the threshold field, S_w the coefficient of magnetic reversal. In the case of rising temperature the two values decrease. This may be due to the decrease of the elastic tensions and the reduction of the anisotropy constant in the material. The isothermal lines $H_m = f\left(\frac{1}{\tau}\right)$ for

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ferrite Nr 2 are given in figure 4. Ferrite Nr 2 was produced by sintering the oxides at 1,300° and subsequent tempering. The composition is $MgO.3MnO.3Fe_2O_3$. Figure 5 shows the temperature dependence of the threshold field and of the coefficient of magnetic reversal of ferrite Nr 2. The curves indicate the maximum value of the threshold field to be in the range of -117°. Such an anomaly is likely to be due to the existence of phase transitions taking place in some ferrites. Figures 2 and 4 show that the range of linear dependence $H_m = f\left(\frac{1}{\tau}\right)$ is in the case of ferrite Nr 1 in weaker fields than in the case of ferrite Nr 2 and that consequently ferrite Nr 1 is more economical. H_m denotes the external field, τ the duration of magnetic reversal. There are 5 figures and 15 references, 2 of which are Soviet.

ASSOCIATION: Kafedra magnetizma fizicheskogo fakul'teta Moskovskogo gos. universiteta im. M. V. Lomonosova (Chair of Magnetism of the Physics Department of Moscow State University imeni M. V. Lomonosov)

BELOV, V. F.

PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov, Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Sholʹtz, Candidate of Physical and Mathematical Sciences; E. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volchkanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

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